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TREATISE

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Sudden DEATHS;

And the REASON why such Numbers of People have died suddenly of late YEARS.

To which is added,

A DISSERTATION upon Bleeding in a Fit of the Apoplexy; with a Discourse concerning the Principles of Vitality in Animal Bodies; all drawn from Reason, Experiments, and Anatomical Observations.

To which is prefixed,

A PREFACE in Defence of the Theory of Medicine, against the Cavils and Exceptions of some late Writers; clearly demonstrating that *Hippocrates*, *Galen*, and all the great Ancients grounded their practical Indications upon Principles and a Theory.

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T H E
P R E F A C E,

In Defence of the Theory of Physick, against the Cavils and Exceptions of some late Writers; clearly demonstrating, that *Hippocrates, Galen*, and all the great Ancients, grounded their practical Indications upon Principles and a Theory.



AM sensible, how much I expose my self to the Censure and Cavils of the ill-natur'd World, while I labour for the Benefit of Mankind; but as I have no other Views in publishing this Treatise, but to discover the Principles of Medicine, so far as they relate to the Nature, and
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Cause, of sudden Deaths; and the most proper Means to prevent the fatal Stroke: So I hope, that any little Failures or Mistakes will be forgiven me on a Subject of so great Importance; and upon which the learned World hitherto has had so little Satisfaction.

BUT before I proceed, to the Treatise it self, I must bespeak the Reader's Patience a little, while I obviate a few Objections, that have been lately rais'd, by some Gentlemen of the Faculty, against the Use of Theories in Physick; as if they were inconsistent with the Sentiments of the Ancients; when its evident, even to a Demonstration, that there is scarce an eminent Writer through all Antiquity, but what, strenuously, insisted upon the Necessity of Principles, and a just Theory to ground his practical Indications upon.

I am extremely surpris'd, when I seriously reflect on the little Progress of this noble Science, through that vast Flux of Ages, from the divine Hippocrates, down to the present Times; but if we search into the Grounds of these Impediments, I am afraid, we shall be oblig'd to charge them, in a great Measure, to our too zealously attaching the Authority of the Ancients, and receiving their Dictates as the standing Laws of the Profession.

THE much Reading of other Men's Works, often tinges our Brains with their Errors, and makes us never a Whit the Wiser
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or more Knowing. What, in them, was Wisdom and Science, is, in us, only Opinion and Bigotry, if we too zealously espouse their Notions, and do not, as they did, employ our own Reason in the Knowledge of those Things, that so much endear'd them to Mankind; that Posterity would sooner question their own Senses, than dispute a Maxim of Aristotle, tho' never so contrary to Reason and Experience.

THE true End of all Principles in Physick, is not only to assist our Enquiries in making a Discovery of the Causes, and Effects or Symptoms of Diseases; but to direct us in the Application of suitable Remedies, in order to obtain a successful Cure: And when they have this desirable End, they certainly deserve our regard, and are highly worthy of our Attention and Consideration.

A Physician, therefore, that is resolved to steer his Course agreeable to the genuine Laws of Nature, will make it his first and principal Care to discover the Constitution and Temperature of the Patient, the Causes of Diseases, and their Effects or Symptoms, with their Events. These are the Particulars, he ought carefully to study, if ever he expects to succeed in the Cure of Diseases, or make any considerable Advances in the Practice of the Profession.

IT is the Character, therefore, of a consummate Physician, not only to be able to judge
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well of the impending Symptoms, and, from thence, predict the Event of the Disease; but he ought also perfectly to understand the Measures most proper to be taken, under the present Circumstances of the Patient; and to foretell with the greatest Exactness, what Effects, that is, what Alterations and Changes they will produce upon the Constitution of the Body.

OF the two former Particulars, Hippocrates undoubtedly was the most judicious Master of all Antiquity: He, not only, by his indefatigable Labour, understood the Symptoms of Diseases perfectly well, and was able to foretell their Events, with very great Certainty; but he was also greatly knowing in the Secrets of the Weather, and the Variation of the Seasons; and, from the different Dispositions of the Air, and Aspects of the Heavens, was able to prognosticate the certain Times, when any Disease would be Epidemical.

HOW well, therefore, may we apply to this illustrious Person, as a Physician, the Compliment that Thucydides, the Greek Historian, gives to Themistocles as a General. “ De Instantibus verissimè judicabat, & de Futuris callidissimè conjiciebat:” that is, he had a consummate Judgment of the present Circumstances of the Disease, and foretold with the greatest Exactness, what would be the Fate of the Patient.

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BUT tho' the *Ancients* were admirably expert, in both the *Diagnostick* and *Prognostick* Branches of *Medicine*, which is the Reason, why their *Labours* have been so much in Request, thro' all *Ages*, yet, with regard to the *Causes* and *Cures* of *Diseases*, which are the most valuable Parts of *Medicine*, they were certainly very defective; which was owing to their Want of true Principles, and a just Theory to go upon: And this Want, as I take it, was the sole Reason, why they were so baffled in the Cure of *nervose Diseases*; and obliged often to have recourse to *Amulets*, *Characters*, and *Sigils*, after those *Diseases*, had eluded the Force of the best Remedies, they could marshal against them.

THERE are some late *Writers*, that have attempted to introduce the *observational Method*, as the only sure Means to improve *Physick*, and qualify a *Physician* for Practice. One of these, in particular, who pretends to have studied *Hippocrates* more, if you will take his own Word for it, than any Man in *England*, or perhaps in *Europe*, endeavours to ground his *Observations* upon the Plan of *Hippocrates's Books de Morbis vulg.* but unhappily for him, he appears evidently to mistake the very Design of those *Writings*, he attempts to copy after.

I never, for my own Part, read a valuable Author, but I labour, as much as possible, to dive into the Spirit and Nature of
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his Meaning, and the Reason and Design of his Writings; and I cannot, but, with a great deal of real Concern, observe, that there is scarce one of Hippocrates's Commentators, that have rightly understood him. They have often fallen upon the Works of this great Man, with a sufficient Fund of Learning, but with little Judgment, or Solidity of Thought: And hence they have, many Times, taken that for the Sense of Hippocrates, that I dare boldly aver, never once enter'd his Thoughts: This will more evidently appear, by considering his Design in Writing the first and third Books of his Epidemicks, which are, by all, acknowledg'd to be genuine.

NOW it clearly appears, that the avowed Design of those Writings were only two.

First, From particularly describing the Qualities of the Air, and Variety of Weather; and observing the Influence of both upon humane Bodies, he endeavours to furnish us with Rules to judge of the Kinds of Diseases, that were most likely to be Epidemical, at certain Seasons.

Secondly, He attempts, from a Detail of the Symptoms, in particular Cases, during the Course of the Illness, to give us Instructions, that may enable us to prognosticate the Events of Diseases; and, for this Reason, he is very minute in giving an exact Relation of every particular Circumstance
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and Change that happen'd to the Patient, each Day of the Disease.

O F these Particulars, Hippocrates made great Account ; and by observing their Effects, and the Consequences that followed, he arriv'd at a very great Certainty, not only of prognosticating the Events of Diseases, but of foretelling what Diseases would be Epidemical at certain Seasons.

NOW how egregiously mistaken must these Gentlemen be, that attempt to discover the Causes and Cures of Diseases from these Observations, when it's evident, the Design of the Author was levell'd at quite another Purpose, as appears from this Detail of these Writings !

*BUT, that Hippocrates grounded his practical Indications, upon an Hypothesis or Theory, may certainly be collected from other Parts of his Works ; for in his Books de * Morbis and that de † Affectionibus he advises, “ That none presume to enter upon the Province of curing Diseases, that have not first well consider'd their Causes, that is, the Principles from whence they derive their Origin. And a little after, he expressly tells us ||, “ That all Diseases, that proceed “ from Principles within the Body, owe “ their Origin to either Bile or Phlegm” : He pursues the Argument, upon the same*

* Lib. I. de Morbis. † Lib. de Affectionibus.
|| Ibid.

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Principles, and asserts, “ That Bile and
 “ Phlegm are brought into the World
 “ with us, are co-existent with the first
 “ Principles of Life, and continue ever
 “ after, in greater or lesser Proportions.
 “ † As these two Principles are in all Men
 “ living, according to the Sentiments of this
 great Man, in his first Book de Morbis:
 “ So when they happen to be vitious or
 “ redundant, they fail not to become the
 “ Parent of all Diseases, that any way
 “ can affect the Constitution of humane
 “ Bodies”.*

*NOW, I appeal to the common Sense of
 Mankind, whether this be not a Theory, or
 a Method of investigating the Causes of
 Diseases upon Principles: And his Successors
 were so sensible of the Necessity of a just
 Theory; and that Hippocrates had pointed
 out the Way to one; that they expressly
 grounded the Cure of Diseases upon these
 Principles, and attempted to discover Reme-
 dies, that they judg’d most proper, to purge
 off and correct Bile and Phlegm when vitious
 or redundant; and these they dignified with
 the Titles of Chologogues and Phlegma-
 gogues.*

*NOR, is this otherwise, than what all
 the great Ancients thought upon these Sub-
 jects; they made a Distinction between their*

* Lib. I. de Morbis. † Lib. de Affectionibus.

Knowledge of Diseases by Observation, which depends upon a careful Inspection of all the Symptoms; and their Knowledge of them from their Causes, that arise from a rational Deduction of Principles, grounded upon Observation, and the evident Laws of Nature; and doubtless they both have their Weight, and, under right Management, are of great Consequence in Practice. A careful Collection of the Symptoms exhibits to our View a clear Idea of the Nature of the Disease; and a faithful Collection of the Causes, by rational Deductions, from evident Principles, constitutes the Essence: Nor can I conceive it possible, that any Physician can set about the Cure of Diseases, with any Prospect of Success, without a Knowledge of the Causes, that is, of the essential Properties, that constitute the Disease, and the Principles upon which they depend.

IT would little avail us, that, under convulsive or palsical Diseases, the Sensations or Motions, or both of any Organ were impair'd or defective, if we had no other Knowledge of the essential Properties of the Disease, that is, if we were unable to discover, upon what Principles, in the Nerves and Muscles, these Motions were disconcerted, in order to produce these Defects; for it is only from a Knowledge of these Principles, that we can draw those practical Indica-

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tions, most proper to be taken, in the Cure of Diseases. And it is, from a Want of this Knowledge, that Hippocrates, and his excellent Commentator Galen, so frequently complain of the Fallaciousness of Experience, that is, an Experience not joined with a Knowledge of the Causes.

I shall here, for the better Information of the Reader, beg leave to state the Points in Debate, between the Gentlemen that attempt to ground their practical Indications upon Principles and a Theory; and those concern'd in support of the observational Method of Practice. The Physicians of the former Class ground their Success of Practice upon a perfect Knowledge of the Causes, which Knowledge is deriv'd from the Principles of Nature. Those of the Latter upon a real Knowledge of the Symptoms and their Prognosticks.

THE Practice of the former is regular, and arises from a rational Deduction of Principles, that discover to us, the Chain of Causes, that support the Symptoms upon the Constitution; and betwixt which, and the Causes, there is a necessary and inseparable Connexion; so that, if you remove the Causes, you absolutely relieve the Symptoms, and cure the Disease.

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THE Practice of the latter depends wholly upon the Observation of the Symptoms, and their Events; but as there is no necessary Connexion, between the Principles of the Symptoms and the Principles of the Cure, for want of a proper Knowledge of the Principles of the Causes, so its impossible, but that a Practice, grounded upon such precarious Indications, must be often liable to very fatal Mistakes.

IT is true, according to Celsus, there were Empiricks of old, who contended, that the Search into Nature, and the dark and latent Causes of Things were needless; but all the great Ancients were quite of another Mind; they were fully persuaded, that it was a necessary Point, and impossible to set about the Cure of Diseases, with any Prospect of Success, unless they were well appriz'd of their Origin and Cause. This is the Voice of all sound Antiquity: All the most judicious Writers, from these Times down to our own, have fallen into the same Sentiments; the same Way of Thinking, and unanimously pursu'd the same Design.*

THE Misfortune of all was, that very few of their Successors, had either the Ge-

* Præf. Corn. Celsi. p. 7.

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nus, Spirit, or Capacity of these illustrious Masters. Most of 'em aver'd, that all the Treasures of Wisdom, so far as related to the Knowledge of Physick, and the Cure of Diseases, were only discoverable in these Fountains of Antiquity, that is, in the Works of Hippocrates and Galen.

THESE Books were not only religiously studied, but they accounted it an inexpressible Crime, for any Man to dare to deviate from their Sentiments; so that, in all their Controversies, the ultimate Appeal was always to the Authority of the one or other of these great Men.

ACCORDINGLY, for several Ages, they did little more, than copy and transcribe, from the Writings of those illustrious Originals; and he was judg'd the best Author, who was able to give the finest Turn to the Manner and Stile of his Writings: Nor was there any Occasion for new Matter, so the Composition was Elegant, and the Stile classical. And this, as I take it, was the great Reason, why so little was done, in Physick, before the Beginning of the last Century; when Men began to fling off the Shackles of Antiquity, to search into the Nature of Diseases, and deduce from Principles a just Theory, that lets us into the
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most secret and abstruse Causes of their Existence.

IT cannot, indeed, be deny'd, but that some of our Modern Physicians have undertaken to write of Diseases, tho' it evidently appears, from their Writings, that they are incapable of distinguishing betwixt the Causes and Effects, or the Causes and Symptoms of Diseases: And this is the Reason, why a learned, Modern Author, is so egregiously mistaken, as to substitute Heat and Cold as Causes, when the meanest Smatterer in Philosophy could have inform'd him, that they are only Qualities of Bodies, or Effects of Causes; and consequently alterable according as the Constitution of the Solids and Fluids are elevated or depress'd, in their Motions, above or beneath the Balance of Nature; that is, the Qualities of Heat and Cold, follow the Course of the Solids and Fluids, and are inseparably connected with their Motions, according as they are higher or lower, swifter or slower, than is consistent with the natural Standard of Health.

HOWEVER, even this Gentleman himself, to do him justice, is so candid, as to acknowledge, that there is a manifest Difference between foretelling the Changes and Events of Diseases, and being able to effectuate a successful Cure, or, as he more elegantly

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gantly expresses it, “ In being able to rescue the Patient from the very Jaws of “ Death”.

I N this particular, he is certainly in the right; for the former depends upon a careful Inspection of all the Symptoms, as they successively affect the Constitution, during the Course of the Disease: The latter is owing to a Discovery of those Principles that constitute the Causes: For the Principles of Practice necessarily result from the Principles of the Causes, and are a necessary Consequence of a rational and just Theory, grounded upon the evident Laws of Nature.

I have, indeed, been the more prolix upon this Subject, and more warmly espous'd the Principles of Medicine, because the Professors of Physick are not intitul'd to Success any farther, than as they are appriz'd of the Knowledge of the Causes. This was the Reason, why I sometime ago publish'd my New Theory of Physick and Diseases, grounded upon the Principles of the Newtonian Philosophy, in which I have endeavour'd to account for all the various Alterations and Changes, that happen in humane Bodies, whether under a State of Health or Diseases, from the mechanical Affections of Matter and Motion: But as that Book is now

entirely out of Print, and extremely scarce to be met with ; so, if my Avocations will give me Leisure, I intend to make such Additions, in the next Impression, as shall render it a compleat Model of Physick, answering to all the Intentions of Cure, even in the most perplexing Maladies.

THE surest Mark of a true Theory is, that it does not only hit two or three Particulars, but answers all the Difficulties it is apply'd to, and is adequate to the Nature of the Subject, in its whole Extent, and through all its several Branches; and when the several Parts are clearly discover'd, well digested, and conducted upon the Principles of right Reason, there appears, methinks, more of true Beauty, Harmony, and solid good Sense, at the Bottom of such a Theory, than can possibly arise from any imaginary Hypothesis, how artfully soever contriv'd.

TO conclude; though the Ancients were very Defective in their Theories of Medicine, yet it must be confess'd, they did great Things for the Times and Ages in which they liv'd; and it can be imputed to nothing but the most stupid Ignorance, if assisted with the late Improvements in natural Philosophy, the modern Discoveries of Anatomy, and the Advances made in
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other Parts of natural Knowledge, we do not excel them in all the Branches of the Arts and Sciences; and arrive at greater Perfection in our Practice, than could possibly be expected from them, under that Cloud of Darkneſs, in which they were involv'd.

College of Phyſicians,

In *Warwick-Lane,*

Jan. 12, 1732.



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INTRODUCTION.



IN treating of those Affections that strike the vital Organs with a universal, sudden Stop, that is, that infer an absolute Palsie or Convulsion in the Motion of the Heart, *Cerebellum*, and of the *Medulla Oblongata*, in the highest Sense of the Words; whereby the Patient is affected with sudden Death, or a total Cessation of Motion in all the animal, vital, and natural Organs, I shall first consider the Symptoms that precede this surprizing, sudden Change. Secondly, I shall endeavour to account for the several Causes, that introduce such a fatal Scene of Things: And lastly, close all, by considering the most proper Means to stave off the preceding Symptoms, and prevent the fatal Causes from taking Effect.

S U D D E N Deaths were so generally epidemical in the Years 1730, and 1731, that whoever revives the Yearly Bills for these two Years; and compares them with the yearly Bills for twenty Years backward, will perceive, that there is no Season, tho' ever so sickly, in which, the Article of sudden Deaths and Apoplexies was near so numerous, as during that Period of Time.

T H E Quicksilver in the Gage of the Barometer, during the Course of the Year 1730, generally stood at $28 \frac{1}{2}$ to $28 \frac{7}{8}$, seldom did it arise to 29, but very rarely to $29 \frac{1}{2}$; and this was occasion'd from the moist Vapours and dampy Rains that affected both the Spring, Summer, and Autumnal Season of that Year; whereupon the Spring of the Air was extremely relax'd, and consequently fittest to produce Palsies, Apoplexies, and sudden Deaths, from a Depression of the vital Organs beneath the Standard of Nature.

B U T, in the Year 1731, rarely did it fall beneath $29 \frac{1}{2}$, and was often buoy'd up to $29 \frac{7}{8}$, and sometimes to 30, and $30 \frac{1}{2}$; and this was occasion'd from the extreme Dryness of the Season; a Drought so universal as scarce to be parallel'd in the Memory of Man, and which, in the

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Nature of Things, must produce very fatal Effects in the Motions of humane Bodies, where the vital Organs were languid and unable to support the Shocks of these two opposite Extremes.

By all this it appears, that the Air was Epidemical in the Year 1730, and 1731: and that these sudden fatal Effects did arise from either the Extremes of its sudden Rarefaction or Condensation; which occasioned, in the Nerves of the vital Organs, either an absolute Convulsion, or an absolute Palsy, and consequently a sudden Death.

T H E R E is, in the space of these two Years, an Advance upon the Article of sudden Deaths, above what they were in any two Years preceding, sufficient to intitle them of an epidemical Nature, especially if we consider the absolute Number of Deaths in the Accounts of these last two Years; for in the Year 1729, there died in all 29722; whereof died of Apoplexies and sudden Deaths only 182; but altho' there died only 26761, in the succeeding Year 1730, which is very near 3000 fewer, yet, in the Article of Apoplexies and sudden Deaths, there was a considerable Advance, for it swell'd to 238, which is a very large Increase if we com-

pare the Disproportion between the absolute Numbers of Deaths, in this and the preceding Year. And if we descend to Particulars, and consider it in a more contracted space of Time, we shall find, that it answers equally as strong or rather more strongly in some Seasons than others; for it is remarkable, that in the Weekly-Bill for *Novemb. 24, 1730*, Twelve Persons were reported to have been struck with the Apoplexy, or sudden Death, tho' the whole Amount of Burials that Week was only 435 : But in that memorable Weekly-Bill of Tuesday *November 11, 1729*, although there died in all 993, yet of Apoplexies and sudden Deaths, only seven ; so that all Things duly consider'd, it appears, in the clearest Light, manifest, that the Causes of sudden Deaths and Apoplexies were Epidemical in the Year 1730; and greatly more rife, considering the small Number of People, that dy'd of all Diseases, in comparison of what expir'd the Year before. And of the Year 1730, that they were much more general in the Autumn and later, than in the Spring and Summer Season of the same Year.

In the Year 1731 there died of sudden Deaths and the Apoplexy 237, although the whole Number of Deaths and Burials for that Year, amounted only to
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25262, which is 1499 fewer than dy'd the Year before: And of this Year 1731 it appears, that a Distinction is to be made, in relation to the Number of sudden Deaths, between the Spring and latter Season, and more especially between the latter Season, and the latter Part of the latter Season; for about the 24th of *December* 1731, it suddenly set into an extremely hard Frost, and so continu'd till Wednesday the 29th, and then as suddenly broke into an extremely warm Thaw, which produc'd such an abundance of moist Damps, and Vapours, that a great many People declar'd they never observ'd the like before; these sudden Changes had very fatal Effects upon Persons whose vital Organs were weakly dispos'd; for the following Weekly Bill gave us an Account of 10 that dy'd suddenly and of the Apoplexy, which is a vast Number, considering, that the whole Account of Deaths this Week was only 452.

NOTHING, therefore, but the dire Calamity, that often attends sudden Deaths, especially, when the Principal of a Family is suddenly snatch'd from the Embraces of a loving Wife, and tender Children, could have prevail'd upon me to attempt a Discourse upon this Subject. To be alive and dead, almost in the same Instant of Time,

Time, is a Scene extremely shocking to humane Nature. To see a Man in a tolerable good State of Health, to perceive him able to enjoy the Conversation of his Friends and Acquaintance ; to eat, to drink, and be merry : And all on a sudden to behold the same Person divested of Life and Motion ; and, at once, struck off from the List of the Living, is a Change very extraordinary ; and which must affect the stoutest Heart with Terror and Surprise.

Now to be able to discover the Causes of these sudden, fatal Changes ; to trace out the preceding Symptoms, that give Warning of their Coming, and the secret Springs by which the Causes act, will be a Means of preventing these Causes from taking Effect, and consequently of securing the Life of the Patient, under the greatest impending Danger ; for it will be too late to implore the Assistance of Physical Administrations, when the Mine is sprung, and the Blow given, that is, when the fatal Stroke has put an entire stop to the vital Motions of the animal Machine.



C H A P. I.

Of the Principles of Vitality in a humane Body; and of the Consent, Agreement, and Harmony that evidently appear in the Mechanism of the principal, vital Organs.

BUT, before I proceed to treat of the Nature and Cause of sudden Deaths, it will be highly necessary, in the first Place, that I attempt to discover the Principles of Vitality in Animals, or those Powers in the Body, by which Animals are said to live, and upon whose Obstruction and Interception, the Animal immediately expires.

I have not Time here, nor will the Compass I have allotted my self in this Treatise permit me, to trace Life, and the Principles of Vitality to their Fountain Head; or set down the Experiments necessary to convince the Reader, of the Grounds of Life, from Observation and Fact; but I shall here, for his better Information, lay down a Proposition founded on the Experiments, I have made, both upon Rep-
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tiles, and the Animals of a more perfect Kind; and which I hope will be a Means of clearing those Points from all Difficulties.

Prop. THAT all Animals, the slower their internal Motions, that is, their Circulation, the less Quantity of real Blood they contain. The less Quantity of Blood they contain, the slower their progressive Motions: And this appears to be the State of Creatures through all their different Classes from the meanest Reptile to the most perfect organiz'd Animal.

AND if we proceed, to consider this Proposition, in Relation to particular Kinds of Animals, we shall perceive that the very Reptiles have so much Blood near the Central Point of their Bodies, where their Motions are the most active, as to excite an oscillatory Motion in the Vessels of their extreme Parts. This seems to be the State and Condition of Snails, that are the slowest in their progressive Motion, contain the least Quantity of Blood; and of Consequence have the least internal Motion; which lessens, as it approaches nearer to, or recedes farther off from the Center of the Body, which is the Heart.

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WHEREFORE, as the Blood of these Reptiles is driven from the Heart, and comes nearer the Surface of the Body, it changes, from the Slowness of its Motion, into an ash-colour'd slimy, viscid, Humour, which constitutes far the greater Quantity of their natural Juices. But this Juice as it advances nearer the Action of the vital Principle, again changes its viscid Consistence into a Quality more sanguineous, which, as soon as it has pass'd the Action and Force of the vital Organ, it again looks, and by Degrees becomes paler.

BUT here a Question very properly arises, and that is, whether the Blood is the Cause of Life, and the Activity of these Motions, according to Dr. Woodward's Sentiments; or these Motions are the Cause of the Blood, that is the Cause of any Fluids existing in the Appearance of Blood: And of this we are certain, that in perfect and well-constituted Animals, the Blood is greatly changed in all Cases where the Motions of the Solids either increase or lessen; and if the Organs have this Power to change and alter the Texture of the Blood, they must have the same Power to generate it; not that I would have, what I either have said, or shall say, upon this Subject, to derogate

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from that sacred Maxim, *that the Life is in the Blood* ; for the Life is assuredly so far in the Blood, that without this Fluid, Life cannot exist, even in the most imperfect Animals.

T H A T Motion is a Property inseparably annex'd to Life, is certain ; but that the Idea of Life is so wholly involv'd in the Property of Motion, as not to contain other Properties superior to it in Nature, is a Proposition, that could never have been believ'd, had not some Smatterers in Philosophy zealously maintain'd it.

THOSE Experiments that are brought by * *Dr. Woodward* to prove, that the Life of the Animal is in the Blood, prove no more, but, that the Fibres of the Organs are capable of being put in Motion, by the Application of proper Objects, a long Time after their natural Motions are extinct ; and which, if they prove any Thing, would prove, that a Piece of Cat-Gut has Life, because, if it is cut in Pieces, and these Pieces strew'd upon any warm Body, they will shrink up their Fibres, and turn and rowl like so many Maggots.

T H E R E is, therefore, something, more necessary to Life, besides the Motion of
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* Vid. Nat. Hist. of the Earth, Illust. p. 72, 73, &c.

the Parts, though taken in the most absolute Sense of the Words ; for Life, especially Animal Life, implies an Existence of Motion, together with an Existence of Sensation ; or at least a Capacity of Sense agreeable to such a State of Being, as the Animal is capable of. And as there are different Classes of Animals, so, these different Classes, are as much distinguish'd from their different Degrees of Sensation, as the different Motions of their Organs.

MOTION, and a Capacity of Sensation therefore, are the Powers, that constitute the Principles of Vitality in animal Bodies ; and the Instruments ordain'd by Nature, for the Exercise of these Principles, are the Organs of the Heart, of the Brain, and of the Medulla Oblongata : The latter assists the Sensation, the former the Motions, that are necessary to support the Life of the Animal.

INDEED it is difficult to discover the vital Union of some Animals, or wherein their Principle of Vitality consists ; as for Example ! What Organ is it, that supports the vital Union of a Snake or Adder ? for if you divide the Head from the Body, that Division will not immediately put an End to the Life of these Animals. Divide the Body into divers Pieces, and

it will still give Tokens of Motion, of Sensation, and consequently of Life. Open the Breast and take out the Heart and Lungs, and notwithstanding this Exsection the carnous Fibres will give evident Tokens of their Vitality. These Experiments, I have, more than once made, in the Dissection of Vipers, that would, eight and forty Hours after both the Lungs, Heart, and Head were taken away, shew evident Marks of Life.

BUT though it be difficult to discover the Organs of Vitality in Reptiles, and other Creatures of slow Motion; yet in Animals, where the Motions are quicker and more active, this Discovery becomes easier; for, in all perfect Animals, if you cut out the Heart and respiratory Organs, the Animal immediately ceases to breathe, to move, and consequently to live. The same happens if you strike a sharp Instrument into the Cerebellum, or Medula Oblongata; for in this Case the Animal immediately falls down divested of all animal, vital, and natural Motion; from whence I infer, that, in order, to preserve the Principles of Vitality, absolutely free, in a humane Body, it is necessary to preserve the principal, vital, Organs clear of Obstructions.

Now

Now there is such a Harmony, Consent, and Agreement between the principal, vital Organs, that is, between the Organs of the Heart and of the Cerebellum, which are Vital, in the highest Sense of the Words; that if an Obstruction or Oppression, at any Time, happens, from any Cause, to the one, the other is always affected with the Change, and exerts a Force and Motion superior to what is Natural, in order to remove the Impediment, resolve the Obstruction, and give a freedom to the oppress'd Organ.

IN all Cases, therefore, where the Heart lowers its Motions, and the Blood is driven into the Lungs and Aorta, with a lesser Impulse, that is, in a Fit of Fainting or a Syncope, if the Brain and Cerebellum, at such Times, did not exert an extraordinary Motion of Systole and Diastole, and immediately detach a considerable Quantity of animal Fluids to the Heart's Assistance; the Patient would assuredly suffer a sudden, fatal Stroke, under every fainting Fit. But a new Supply of animal Fluids in that very Instant, coming to its Assistance, restores the contractile Powers of the Heart, invigorates its Motions, and consequently obliges this important Organ to redouble its Beating,

Beating, whereupon the Patient revives from the Oppression.

THIS peculiar Harmony, Consent, and Agreement between the Motions of the Cerebellum and of the Heart, arise from a necessary Mechanism in their Nerves and Fibres, so exquisitely adapted, by the Benevolence of Nature, as to answer each others Necessities, in all Cases, and at all Times, where either is oppress'd, so that the Oppression be not above the Bearance of Nature: Nor is this Consent only carried on between the Organs of the Brain, of the Cerebellum, and of the Heart; but the Stomach also seems evidently to partake of the Mechanism, that necessarily exists between these important Organs; because in all great Concussions of the Brain, the Stomach gives assured Marks of its Affection, by its frequent Heavings and Vomitings: Nay, all the inferior Organs conspire to support this Agreement, by raising or falling of their Motions, according as the Action of those principal, vital, Organs is intended or remitted.

Now this surprizing Piece of Mechanism, is more immediately supported from several Slips and Branches of the 6th and 8th Pairs of Nerves, that are dispos'd of from

from the Brain to the Heart, and from the Brain and Heart to the Stomach; whereby each particular Organ is oblig'd, by a mechanical Necessity, upon the Failure of Motion in any one, to redouble its Vigour and Action, not only for the Benefit of the oppress'd Organ, but for the Support of the whole Fabrick, and all its several Parts.

To conclude; the more active the internal Motions are, in any Class of Animals, the more brisk are their Sensations, and consequently the more vigorous their Organs of Life: And it is evident that, those Animals, that have the greatest Quantity of Blood, generally have their Organs of Life in the greatest Perfection; and which soonest expire, under any imminent Stroke or Pressure, that may, immediately, intercept the Commerce between the principal, vital Organs, that is between the Brain and Heart.



C H A P. II.

Of sudden Death consider'd in it self, and as it is distinguish'd from all other Diseases, in which People are said to die suddenly; and of the Parts principally affected in Case of sudden Death.

TH U S far of the Principles of Vitality, and the Harmony, Consent, and Agreement established between the Actions of the principal, vital Organs: I shall now proceed to state the true Notion of Death, when it is sudden, and consider the Import of the Words sudden Death, as they are contradistinguish'd from an Apoplexy, and all other Diseases in which People are said to die suddenly; for if an acute Apoplexy seize the Brain, and the Patient quits the Stage of Life in twenty four Hours: In this Case, the Patient cannot so properly be said, to be struck with sudden Death, as to die of an Apoplexy; for if the vital Organs, that is, the Instruments that serve Respiration, and the Motion of the Pulse, give the least Token of Motion, it's a certain Indication, that the Heart moves, that Life exists,

exists, and consequently that the Death is not sudden.

INDEED, it must be confess'd, that, in a general Sense of the Words, all Deaths, that follow upon the most chronick Diseases, may be said to be sudden, because there is only one Point of Time, in which the Motions and Sensations of the animal, and -vital Organs are suddenly Extinct, that is, in Consumptions, Dropsies, and all other Diseases, that terminate in Death; there is but one Point of Time necessary to make the Change, from the absolute Existence of Life, to the absolute Existence of Death.

BUT, what I would be suppos'd to mean, in this Place, by sudden Deaths, is, an immediate, sudden Cessation of Motion in all the animal, vital, and natural Organs, - that is, an immediate sudden Extinction of Life, in a Person, under a tolerable state of Health, in the shortest Period of Time; and, that is, to express my self in Terms as little ambiguous as possible, when the Patient is well, and expires in the Compass of a few Minutes: And this Change we call sudden Death, in the highest Sense of the Words; though an extremely acute Apoplexy, or violent Syncope, in which the

Patient suddenly expires, or survives the fatal Stroke, not above five or six Hours, may, with some Limitation, be call'd a sudden Death.

THE Parts principally and more immediately affected, in order to infer the fatal Stroke, are the Organs of the Heart, of the Cerebellum, and of the Medulla Oblongata, together with their Action: These are all the Organs that, in the animal Constitution, infer an immediate Vitality; and upon the Rupture, Discission, or absolute Obstruction of whose Fibres, there naturally ensues an Extinction of Vitality, that is, an absolute, immediate, Extinction of Life; and that is an absolute, immediate, Cessation of Motion, in all the animal, vital, and natural Organs, which, in a more appropriate Sense of the Words, we call sudden Death.

THESE are the three chief Springs, upon whose Freedom Life is safe. The Lungs I do not look upon to be vital in the highest Sense of the Words, I only esteem of them as the Conveyers of a vital Influential Fluid or Air; whereby the several vital Organs of the animal Machine are kept a going, and consequently Life continued to the several Parts: and, indeed, it is difficult to conceive how Life can be
safe,

safe, or how the animal or vital Organs can maintain their Motions without the vital Effects of this enlivening Fluid the Air, convey'd by the Lungs.

H O W E V E R, the Heart, undoubtedly, is the first and principal Spring of all Motion, whether vital or animal; and deals out the Crimson Stream, that goes to the Head, where, having supply'd the Brain, Cerebellum, and Medulla Oblongata, with a fine animal Fluid, fitting to nourish their Fibres, it is again, by the Veins re-convey'd to the Heart. And this is the noble Course, that Nature makes in animal Bodies, whose Periods sometimes exceed an hundred Years without the least Stop or Lett: And whose surprizing Effects infinitely discover the Wisdom and Contrivance of the divine Architect, that of such perishable Materials, could build up a Machine, that would endure for ever, were but the external Elements exactly suited to the Motions, Temper, and Disposition of its Organs.



C H A P. III.

Of sudden Deaths, with all their Symptoms, Causes, and Concomitants, that arise, in the Constitution of animal Bodies, from the principal, vital Organs elevated, in their Motions, above the Balance of Nature; that is, from an absolute Convulsion affecting the Motion of the Heart, of the Cerebellum, and of the Medulla Oblongata, with a fatal Obstruction in the least Moment of Time.

FEW Deaths are so sudden, but that some Forebodings give Warning of their Coming; nor is it possible, that the Causes can approach so near to the Citadel of Life, that is, the Heart, but that they must raise some Marks, Characters, and Tokens, that if carefully attended to, will discover the Appearance of the Enemy.

HOWEVER,

H O W E V E R, I must confess, that it requires a very nice and critical Judgment to determine the Symptoms, that absolutely presage sudden Death, from either an over-elevated, or depressed State of the vital Organs. It will, I think, be a sufficient Indication, if the Characters forebode absolute Danger; and Persons have been known to die suddenly, that were subject to such Symptoms sometime before the fatal Stroke.

T H O S E Persons, above all others, are in danger of sudden Deaths, that are of an unwieldy, corpulent Body; that have short Necks, strait Chests, and are subject to hitch in their Breathing; great, large Heads, with a very sanguine or pale Countenance, if they indulge in a luxurious Manner of Living, seldom escape a sudden, fatal Stroke.

I observ'd, in my Treatise of Consumptions, that there was a certain Quantity of Motion impress'd, by Nature, upon the Solids and Fluids of a humane Body, absolutely necessary to preserve us in Health; that is to keep the Constitution perfectly clear of all Obstructions. That whenever these Motions swerve from the Standard of Nature, and are either higher
or

or lower, swifter or slower, than their natural State requires they should be, there will necessarily be a Disease; that this Disease, under these Deviations, will be different in Proportion to the Greatness of the Elevation or Depression of the Solids and Fluids: That there are certain Extremes, under both States, that Nature cannot bear; and whenever the Motions of the Solids and Fluids touch upon either of these Extremes, they break the vital Chords, and consequently occasion a sudden Death.

It necessarily follows, therefore, that whenever this extreme Elevation or Depression happens on a sudden, without swiftly running through the several Stages necessary to constitute an acute Disease; or without slowly passing through the several Degrees, necessary to constitute that of a chronick Nature, there will, according to the Reason of Things, ensue a sudden Death, in which Case the Elevation or Depression puts a Period to the vital Union, in the smallest Compass of Time.

I will venture, therefore, to lay it down, as a general Principle, that the immediate Cause of all sudden Deaths, must arise from the principal vital Organs, suddenly

ly elevated or depress'd in their Motions, above or beneath the Balance of Nature, that is, from an absolute Convulsion or Palsy affecting the Motion of the Heart, of the Cerebellum, and of the Medulla Oblongata with a fatal Obstruction, in the least Moment of Time.

A N D I look upon it, to be absolutely impossible, in the Nature of Things, that the fatal Stroke of Death can seize the Constitution upon a sudden ; but that it must arise from the vital Solids being affected with one or other of the foregoing Extremes ; and those Extremes being diametrically opposite, must produce Effects equally contrary ; that is, the Symptoms and Phenomena preceding the fatal Stroke, must be directly different under an over-contracted or convuls'd State of the vital Organs, from what they are, in Case the same Instruments are over-relax'd, or under a palsical Indisposition : But as I design in this Chapter only to treat of sudden Deaths, that arise from an absolute Convulsion of the vital Organs ; so I shall go on to trace out the Symptoms and Phenomena, that precede the sudden, fatal Blow, under this elevated State of the vital Motions.

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THESE sudden Deaths, from this elevated State of the vital Organs, are most liable to attack Infants, Children, and People advancing to Age; rarely or never, do they affect old People, from the Imperfection of their Motions to bring on such sudden, fatal Causes.

THE Marks, Characters, and Tokens, that constitute the preceding Symptoms, and give warning of the Approach of this fatal Enemy, are a Lividness in the Countenance, an extreme shortness of Breathing, great Inflammations of the Eyes, intense Heats, and Flushings of the Face; a great Heat, Weight, and Sense of Fulness in the Brain. A Dizziness, Vertigoe, and Scotomia. A beating, throbbing Pain in the upper Part of the Head, great, acute, and extremely sensible. The Pulse is hard, full, and sometimes intermittent; the Urine of a yellow, bright, and flameous Colour, which arises from the Quantity of Salts extracted from the Blood, under this elevated State of the Heart and Arteries: And although these Characters do not always produce sudden Deaths, but are known to attend other Diseases, yet they always portend Danger, and, therefore, are carefully to be guarded against.

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HOWEVER, these Symptoms are more or less intense in Proportion to the Quantity of Blood, flung up into the Brain and Organs of the Senses: And, then, as soon as the fatal Causes act, that is, as soon as the Blood Vessels of the Brain burst, or press upon the Cerebellum or, Medulla Oblongata, down falls the Patient depriv'd of all sensible Perception; upon which the animal, vital, and natural Motions are extinct in the least Moment of Time; and this we call sudden Death, from the Motions of the vital Organs, elevated above the Balance of Nature.

INDEED, sometimes, People have not the least Foresight or Warning of the Blow, but, negotiating in their Business, or private Concerns of Life, are suddenly surprized with the fatal Stroke, and fall down dead without the least Struggle. This assuredly happens from a sudden Jerk of the vital Solids, or from a sudden Breaking of an Imposthume in the Organ of the Heart, of the Brain, or of the Medulla Oblongata; and the sudden fatal Stroke, happening from these Causes, we call sudden Death, in the highest Sense of the Words.

IN Relation to the immediate Causes of sudden Deaths, acting in the least Moment of Time, we are to consider, that there is always a greater Quantity of Blood, a greater Secretion of animal Fluids, and consequently a greater Pressure upon both the animal and vital Organs, than is consistent with the Balance of Nature, or that Equilibrium of the Solids and Fluids necessary to constitute a sound State of Health. That this Pressure occasions, the Organs of the Heart, of the Cerebellum, and, of the Medulla Oblongata, together with their Arteries, to act with a more forcible Impulse, in every Systole and Diastole; that is, the Machinulæ of their Fibres act upon each other with very great Violence, in every Contraction or Distraction they suffer, for maintaining the Motion of the animal and vital Fluids, which occasion the Convulsion; and if any of these extremely fine Chords, or Vessels of the Brain, or Cerebellum, happen to start or break under such great Emotions, which they are apt to do from the exquisite Fineness of their Make and Texture, then the Brain is immediately overflowed or delug'd with Blood; upon which the vital Motions are extinct in the least Moment of Time.

THE same violent Causes acting, in the same violent Manner, may occasion a Rupture either in the Vessels of the Heart it self, or of those leading thereto; in which Case the Motion of this important Organ is suddenly suffocated, and Death brought on in the least Instant of Time. Or if any of the inner Coats of the larger Veins or Arteries happen to burst or form a Varix, or Aneurism; the Event of these Effects seldom fails, at one Time or other, to be suddenly fatal; and these, I think, are generally the immediate Causes of sudden Deaths, when they arise from this elevated State of the vital Organs.

THE Matter, that lays the foregoing Pressure of a greater Quantity of Blood upon the principal, vital Organs, and acts as the proximate Cause, in disposing them to this sudden, fatal Catastrophe, is a gluttonous Charge of those Meats and Drinks, we take for the Support of Life. A Diet continu'd upon high-season'd Meats, poignant Sauces, and Plenty of rich Wines, in Time, heighten the Contractions of the vital Organs, inflame the Blood, fire the Passions, and render the Nerves extremely elastick; And when the Nerves of the vital Organs are wound up to the highest Stretch, they can bear;

then the least higher Impulse, from either a sudden Change of the Air, or setting in to a thorough Debauch, may crack those noble Springs of Life, extremely disconcert their Action, and put an everlasting Stop to all their Motions.

THE Matter, that acts as the remote Cause, in putting the foregoing proximate and immediate Causes in Motion, and in enabling them to produce such immediate, fatal Effects, is the Air. Of this Element I shall say little more, but, that whatsoever makes a sudden Change in the Motions of the principal, vital Organs, must necessarily effect a sudden Alteration in the Action of the vital Faculties; and as the Atmosphere suddenly changing from an extremely cold, to an extremely hot, or from an extremely dry, to an extremely moist Intemperature, must produce a sudden Alteration in the Motions of the Solids and Fluids: So these sudden Alterations, thus suddenly coming on, must necessarily effect a sudden Prostration of the Strength, a sudden Cessation of the animal Faculties, a sudden Extinction of the vital Principle, and consequently a sudden Death *.

* Vid. Introduction.

THE Passion, most incident, to endanger sudden Deaths, from this elevated State of the vital Solids, is excessive Joy. In this Case, where the fine Filaments of the Brain are wound up into an exceeding great Springyness or Elasticity, from the Appearance of some immediate Good, presently to be enjoy'd, the Heart beats with a greater Impulse, the Blood boils, and the Spirits rarifie sometimes to such an extraordinary, immense Degree, that the tender Vessels of the Brain start; upon which the Sinuses are delug'd, the Cerebellum compress'd, and an universal Stop put to all the vital Springs of Nature.

OF the Force of this Passion, in producing sudden Deaths, *Riverius* relates a very remarkable Story. It is of the unfortunate Fate of a fine, young Lady in *France*, who, being contracted to a young Gentleman of very promising Parts, and, on the Day of Marriage, receiving the Pen from the Notary, to subscribe her Part of the Marriage Contract; before she had finish'd half her Name, fell down depriv'd of all animal, vital, and natural Motion; and expir'd without the least Struggle: And this surprizing sudden Change, happen'd in the midst of her Friends

Friends and Relations, who were assembled to see the Solemnity of the Marriage, and partake of an Entertainment provided on that Occasion.

IT is very remarkable, that this young Lady was very subject to frequent Syncope; and would swoon away upon the slightest Commotion, or any sudden Surprise, that rais'd or depress'd her Passions: And it is reasonable to suppose, that this immediate, and sudden Extinction of Life, arose from the Vehemency of her Passion of Joy, for the happy Change she was about to make, which drove the Blood and animal Fluids like a Torrent upon both the Heart and Cerebellum, in the same Instant of Time; whereby the vital, as well as the animal Powers were extinct, as soon as the fatal Causes began to act, that is, as soon as the Fibres of the Heart and Cerebellum were obstructed in their Motion; which was, as soon as the Passion did extraordinarily exert it self upon the Solids and Fluids of the foregoing Organs.

BUT this, I must observe, that before there can be such an extraordinary, sudden Commotion in the Blood and animal Juices, from either the Air, our Diet,

or the Passions ; it is necessary that the Action of most of the principal Springs, that hold us in Life, be greatly weakened and impaired ; upon which the least higher Impulse, breaks the tender Filaments of the Brain, compresses the Cerebellum and Medulla Oblongata, whereupon the Nerves, going to the Heart, are totally obstructed ; and thus is a fatal Stop put to the Motions of all the vital Organs, in all Cases, where the vital, nervose Solids are, extremely, elevated or contracted above their natural Standard.



C H A P. IV.

Of sudden Deaths, with all their Symptoms, Causes, and Phenomena, that arise, in the Constitution of animal Bodies, from the principal, vital Organs depress'd, in their Motions, beneath the Balance of Nature ; that is, from an absolute Palsy affecting the Organs of the Heart, of the Cerebellum, and of the Medulla Oblongata, with a fatal Obstruction, in the least Moment of Time.

IT is impossible, in the Nature of Things, that a sudden Death can affect the Constitution of animal Bodies, but, that it must arise from either an absolute Convulsion, or an absolute Palsy ; and, as in the former Chapter, I treated of sudden Deaths, with all their Concomitants, that arise from an absolute Convulsion affecting the Organs of Life ; so, in this, I shall proceed upon the same Principles to discover the Causes, that may affect the foregoing Instruments with
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an absolute Palsy, that is, that strike the several Motions of the animal OEconomy, with a universal, sudden, Stop in the least Moment of Time.

THE first Symptoms, that presage sudden Death about to happen, from this depress'd State of the vital Solids, are a universal Plethora or Fulness of the Habit join'd with Phlegm: In this Case the Countenance appears pale, ghastly, and the Constitution bloated. To these Symptoms succeed great and sudden Pains of the Head; a Noise or unusual Sound in the Ears. Sleeps longer and deeper than usual. A sudden instantaneous Loss of Memory, of Speech, and of the Faculty of Hearing. A frequent Vertigoe sometimes is the only Symptom that gives Warning of the Coming on of the fatal Stroke.

IF the foregoing Symptoms happen to be succeeded with short Breathings, frequent Syncope, and Fits of Fainting, then it is well, if the Patient escape with the Stroke of a Lethargy, or slight Fit of an Apoplexy: But if, under these Circumstances, he is negligent of his Condition, and suffers the Causes to gain Ground upon his Constitution, then, towards the

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Spring, or Fall; or any considerable Changes of the Weather, especially those repleat with Moisture, the Causes act with greater Vigour, or a stronger Impulse, the Vessels of the Brain start or burst; upon which the Blood immediately presses into the Sinuses of the Brain, compresses the Cerebellum and Medulla Oblongata, obstructs the Motion of the Nerves going to the Heart, and Organs serving Respiration; and at once intercepts, as well the vital, as the Motion of the animal, Organs; whereupon the Patient, immediately, falls down divested of all Life, and the Operation of all the noble Faculties.

T H U S far of the preceding Symptoms, that usher in sudden Death, under this depress'd State of the vital Organs; I shall now go on to explain the Causes, as well immediate, as those more remote, that may occasion sudden Death, in the highest Sense of the Words, that is, that may put a Stop to the vital Motions, in the least Moment of Time. In this Proceeding, I shall first consider the Causes, that act upon the Organs of the Senses, in order to produce the preceding Symptoms, and those that give Warning of the Approach of the fatal Stroke; after that, I shall enlarge upon the Causes
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ses, that immediately act upon the Organs of the Heart, of the Cerebellum, and of the Medula Oblongata, in order to put an immediate Stop to the Motions of the vital Solids.

THE Causes of the Symptoms, that precede sudden Death, and give Warning of the fatal Stroke, arise from the same Causes, that infer sudden Death, acting with a lower Degree of Impulse; for in this Case the Arterial, Venal, and Nervose Solids relax; but not so much as to be immediately, preternaturally, fatal; for their Relaxation does not, immediately, penetrate the Cerebellum, or dissolve the Vinculum or Medium between Life and Death; that is, the Chords of the principal, vital Organs, that hold us in Life, are not so immediately broken, but, that, they have Time to excite those Symptoms, that give Warning of the Approach of this fatal Change.

Now, if it so happen, that the Motions of the Veins, Nerves, and Arteries, are, from any Causes depress'd, it necessarily follows, that the Juices will acquire a greater Viscidity or Thickness, whereby they will be incapable of passing, or secreting through the fine Vessels of the Brain. This Viscidity of the Blood

obstructing in the Brain, and pressing upon the sensible Organs, generally introduces those first Symptoms, that pave the Way to this fatal Stroke; for the Brain being oppress'd with Phlegm, separated from this viscid State of the Blood, under this depress'd State of the vital Solids, is the Cause why the Organs of the Senses, are affected, whereby a Change is introduc'd in the Action of Sensation; and hence arise that Stammering or Faultering of the Speech, that sudden Failure of Seeing, and those tingling Sounds in the Ears, with a Paleness, or Wanness of the Complexion.

To this depress'd State of the Solids and Fluids, we may also reduce those polipose Concretions, so often found in the Brain, in the Lungs, but especially in the Heart and great Vessels leading thereto: And when the Causes are thus laid in Train, the least Changes, in the Air, or our Diet, may effect a Rupture in the Vessels of the Brain; upon which there follows an immediate Cessation of Motion, in all the animal, vital and natural Organs, and consequently an absolute, sudden Stop in the Action of all the animal, vital, and natural Faculties, which, in an appropriated Sense of the Words, we call sudden Death.

I SHALL, therefore, venture to lay it down as a Proposition, most certainly true, that, in order to extinguish Life, it is necessary to extinguish the Motions, in the Fibres of both the Heart, of the Cerebellum, and of the Medulla Oblongata, that is their Capacity to move; for if a Capacity of Motion continues, then, upon the Obstruction of either the Heart or Cerebellum, the Fibres of the unobstructed Organ will necessarily exert its mechanical Powers, and oblige the obstructed Organ into Motion again; upon which the Patient will revive from the Fit of a Syncope or Apoplexy, as either the Organs of the Heart or of the Brain were the Parts principally affected, in producing the Stroke.

AND this is the Reason, why, in divers Cases, we often perceive the Brain like an Oven with Heat, while all the extreme Parts that depend upon the Heart's Motion are ready to freeze with Cold. This assuredly arises from an excessive Motion in the Fibres of the Brain, in order to disengage the Obstructions of the Heart, and the Vessels that minister to the exterior Organs: But whenever any Causes act on the Body so,
that

that the Fibres of the Cerebellum, and the Fibres of the Heart discontinue their Motions in the same Instant of Time, and are incapable of lending their Assistance to each other; in this Case, their Motions are extinct in a Moment of Time, and Life ceases in a few Minutes.

IT is observable that, few die suddenly under this depress'd State of the vital Solids, but what are above Fifty, and, who during their younger Years of Life, were excessively indulging in their Diet and Manner of Living: And I look upon it as impossible to affect the Body with sudden Death, unless the Organs of the Heart and Arteries impair in their Motions, whereupon this viscid State of the Blood is accumulated upon the Habit: And from this Origin arise those polipose Concretions generated in the largest Veins and Arteries nearest the Heart, and which sometimes are found form'd in the Basis of this important Organ, and which block up the Passages leading to and from the Lungs, to and from the Brain, and to and from the principal Organs of the Body. This is a constant Cause of sudden Death, and, experimentally, found to be so upon divers Dissections.

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BESIDES, sudden Deaths may arise from accidental Causes, as a Compression of the Cerebellum, and Medulla Oblongata, but this seldom happens, unless a Stroke, Blow, or Fall, infer an Intropression of the Scull, on the Back-part of the Head; for all lesser Pressures on the Sides, or Fore-part, may cause great Disorders in the Brain, and, thereby, likely enough, excite a Delirium, Lethargy, or Palsy; but sudden Death is not so easily effected; nor can we of our own selves, immediately, put a Period to this miserable Life, as appears from the fruitless Attempts of those, that have endeavour'd, with all their Might, to make away with themselves.

It appears, therefore, that it is very difficult to kill a Man; or for a Man to kill himself on a sudden. In poisoning Animals with *Opium*, it is very difficult to adjust the Dose: For if the Dose be too large, the Stomach, in many Cases, will reject it by Vomit. I try'd this Experiment three several Times unsuccessfully upon a Dog, my self, but in the fourth, by the Assistance of good Management, it did the Work, and he died greatly convuls'd: Upon dissecting
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the Brain, we perceived, that several of the great Vessels were broke, and the rest greatly inflam'd, upon which the Blood overflow'd the Sinuses of this important Organ.

I N extraordinary Concussions of the Brain, from a Blow, Fall, or Contusion, unless you wound the Cerebellum or Medulla Oblongata, the Effects are not immediately mortal : And it is with great Difficulty you can affect the Cerebellum, or Medulla Oblongata, because the Motions that come to these Organs, will first affect the more pulpose Parts of the Brain, which are softer, and more yielding to the Impressions of the Causes; and which would sooner, according to the Nature of Things, excite an Apoplexy or some Cephalick Disease, than sudden Death. But in extraordinary Motions or Rarefactions of the Blood in the Brain, from plentifully drinking of hot, fiery, spirituous Liquors, it often happens, that the Motions of the Cerebellum, and Medulla Oblongata, are oppress'd to that Degree, as to intercept the Motion of the animal Fluids from going to the Heart, whereby an entire, sudden Stop is put to the Motions of the animal Machine.

I HAVE observ'd, in the Introduction, that more dy'd in the Years 30, and 31, than in the like Period any Time heretofore; and if this be a Fact publicly attested; then a proper Enquiry will arise, *viz.* To what Cause is it most likely, that such a Change is owing.

THAT the Elements of our Constitutions are the same now, that they were twenty Years ago, is scarce to be questioned, nor is it possible that we can have made such considerable Advances in our Luxury, as to occasion such frequent, sudden Shocks to Nature: Our Diet doubtless, affords the Matter of the Obstructions, but then the Question recurs, *viz.* What puts that Matter in Motion, and enables it to act with such a fatal Impulse? and this we can ascribe to nothing so properly as the Air.

WE have been told of late Years, of noxious Corpuscles, Animalculæ, and infectious Miasmata floating in the Air; and which are fruitful, in producing Alterations and Changes in the human Body; but I very much question, whether the Air is capable of affecting the Constitution

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fo, as to precipitate him with a fudden Death, but from a fudden extraordinary Rarefaction or Condensation of its Spring, in fuch a Manner as to make a confiderable, fudden Change in the Motions of the vital Organs; and as the Air in 1730 was generally moift, hazy and fubject to thick, dampy Fogs; and therefore fitteft to produce either a fatal Apoplexy or a fudden Death, from an absolute Palfy fuddenly affecting the Motions of the animal and vital Organs; fo the Air in 1731, was extremely dry, fultry, and confequently its Spring greatly elaftick: This could not happen; but that a Principle in the Corpuscles of the Air, muft be introduc'd diametrically oppofite to what it was during the Courfe of the former Seafon: And which would neceffarily have a great Influence over all thofe Bodies, that were of a biliofe Conftitution, or whose Syftem of vital Solids were already wound up to the higheft Degree of Elafticity they were capable of: In this Cafe the leaft higher Impulfe would over-contract thofe noble Springs of Life difconcert their Faculties, and, by an absolute fudden, Convulfion, put a fatal Stop to all their Motions.

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* *HIPPOCRATES*, in both his Books of Epidemics, and Aphorisms often inculcates that a moist Southerly Wind, abounding with much Rain, is productive of Palsies, Apoplexies, and sudden Deaths; but these Effects it could not produce unless there had been a Disposition in the Habit favouring those Affections: This Disposition of the Habit is an Affection of the Brain, whereby its Glands are dispos'd to relax and secrete a gross, viscid Phlegm, which, obstructing, in the Fibres of the Cerebellum and Medulla Oblongata, totally disables the animal Fluids from being convey'd to the Heart, upon which the Animal falls on a sudden, divested of all animal and vital Motion.

I SHALL now conclude this Chapter of the Nature and Cause of sudden Deaths, arising from this depress'd State of the vital Solids, by subjoining the Case of the Dutcheſs of *Brunswick*, who lately died suddenly at *Paris* in *France*.

THIS Lady's Death most certainly was sudden, in the highest Sense of these

* Hipp. Lib. I. Sect. VII. de Morb. vul. Aphor. 13. 16, 17.

Words; for she perceived her self in a tolerable State of Health, the Moment before she expir'd; and was well, alive and dead, in less than a quarter of an Hour.

U P O N Dissection, it appeared, that the Cause of this extraordinary and sudden Change, was owing to an Imposthume, that had formed it self, in the Membrane of the right Ventricle of the Heart, which suddenly breaking, diverted the natural Course of the Blood, from the Pneumatic Artery, which necessarily occasioned a formal Interruption of the Circulation, a sudden Prostration of the Strength, and consequently a sudden, universal Stop of the vital Principle: For the Imposthume, upon breaking, form'd a very large Sinus, that penetrated into the Pericardium, into which all the Blood flow'd, that should have discharg'd into the Pulmonic Artery; nor was it possible, in all appearance, to have prevented this fatal Blow; in Case the true Cause had been discover'd; because the Rupture was inevitable, at one Time or other, if the same Causes had existed: All that could have been done, in this Case, for the Preservation of this Lady, must

must have been by lowering the Force and Motion of the Blood, and endeavouring, by that Means, to prevent the Rupture of the Imposthume; and the only Means that could have effected this, must have been a spare Diet, and to have kept the Passions calm.



C H A P. V.

Of Relieving the preceding Symptoms, that threaten sudden Deaths, from the Motions of the vital Organs depress'd beneath the Balance of Nature.

THUS far we have examin'd into the Nature and Causes of sudden Deaths; and the Reason why such Numbers dy'd suddenly in the Year 1730, and 1731; we have also taken Notice that sudden Deaths were most properly divided into two Kinds, *viz.* Those that arise from a Depression or absolute Palsy, and those that arise from an Elevation or absolute Convulsion of the vital Organs. I observ'd also upon that Division, that it was just, and agreeable to the Laws of Nature; and impossible to conceive any Idea of a sudden Death; but what must, immediately, arise from either the one or other of these Extremes, the Achme of which affects the vital Organs with an instantaneous, fatal Stroke.

I SHALL now proceed upon the same Principles to discover the curative Indications

ons most proper to stave off the preceding Symptoms, and prevent the fatal Stroke from taking Effect; for there is a necessary Agreement and Connexion between the Principles of the Causes, and the Principles of Practice. And this Connexion consists in a perfect Knowledge of the Rules of Practice, drawn from the Principles of the Causes; for if the Laws of Practice have not a perfect Dependence upon the Principles of the Causes, its impossible the Physician can ever have any certain Grounds to go upon; as I have abundantly discover'd in the Preface to this Treatise, and could go on to confirm with divers Reasonings, and Experiments; but that the Brevity, I have set my self, will not permit me to run farther Divisions upon this Subject.

H O W E V E R, it is, doubtless, a very great Pleasure for the Physician to reflect, that Nature is always helping on his Side, that is, the Mechanism of the Constitution is so exactly suited to the Intentions of Nature, that she is always attempting to recover the several Organs from their Pressure, by raising or falling their several Motions, as far as is in her Power,

Power, according as the Exigence of the Case requires.

AND as these sudden Deaths, that arise from a Relaxation, Obstruction, or absolute Palsy of the vital Organs, were generally Epidemical in the Year 1730, because the Weather, during that Compass of Time, was extremely hazy, abounding with Moisture, and therefore properest to relax the vital Solids: So I shall go on in the first Place, to lay down the curative Indications most proper to relieve the preceding Symptoms, that arise from this depress'd State of the vital Organs.

IN the first Place, therefore, when Persons of a gross Habit, perceive a sudden, dull and heavy Pain of the Head, a Faultering of the Speech, and a Vertigoe or Dizziness, attended with a great Shortness of Breathing, they may be assured that these Symptoms are Indications of a Load and Pressure upon the animal or vital Organs, or perhaps both; in this Case, and under this depress'd State of the vital Organs, let Blood be but sparingly drawn; and I should judge $\frac{3}{4}$ taken from the jugular Vein sufficient for the first Time.

If

IF, from the Pressure of the Symptoms, there seems a Necessity to make farther Discharges of this Fluid, which is discover'd by a Shortness of the Breath, then let Cupping-Glasses be apply'd to the Neck and Parts adjacent, with large and deep Scarifications. This seldom fails to enlarge the Breath, and relieve the Pains of the Head, by taking off from the Load and Fulness of the Vessels.

BUT if the Pressure still continues, which seldom happens after these Means have been pursu'd, then let a large and sharp stimulating Blister be apply'd to the Back-part of the Head, which assuredly restores the over lax Fibres of both the animal and vital Organs, whereby they act with greater Steadiness, in resolving the Phlegm and other Juices, that, generally, constitute the Load and Fulness, under this depress'd State of the animal and vital Motions.

T H U S far having proceeded, in our topical Applications, we must, in the next Place, go on to consider, what farther Means may be proper to secure the Constitution of the Patient against the At-

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tacks of the fatal Blow ; and I know nothing preferable to gentle Vomits, which are of singular Service, if administer'd under proper Management.

THESE Remedies, do not only act as an Evacuant, but they restore the over-lax Machinulæ, contract the impair'd Springs of the weaken'd Fibres, and repair the Breaches made in both the animal and vital Organs.

OF Vomits, under this distress'd State of the animal and vital Organs, I should prefer the Ipocacuhanna, because it is the gentlest in Operation ; for, in this Case, great Care must be taken, least, by a Rupture in the vital Vessels, we do not hasten on that fatal Period, we are, by these Means labouring to prevent : And, therefore, if any Contra-indications arise, that may discover Vomits improper to be given, we must, then, attempt the Benefits of what we expected from their Operation, from the Administration of the warmer Purges.

℞ Tinct. Sac. Elix. Salut. ʒiſs. Syr. de Spin. Cervin. ʒvi. Sal. Vol. Ol. Spt. Lavend. C. ʒagtt. xxx. f. Haust. debito Tempore, Sumend. & rept 3° quoque Die.

THE Debitum Tempus, or due Time of administering Remedies, in all Cephalick or Nervose Diseases, where the Symptoms arise, that threaten sudden Death, is the present. In these Cases we must not wait till the Morning, if call'd in the Evening, before we advise to bleed or purge, because that Time is the most seasonable for the Administration of these Remedies; but we must insist upon the present Opportunity, as the only proper Season, where such imminent Danger arises from Delay.

AFTER a sufficient Discharge of the Load, that presses upon the animal and vital Organs, it will be highly proper to administer such Remedies as have a Power to facilitate the Blood's Motion, break the Cohesions of viscid Juices, and render the Circulation open, free, and regular. Those Medicines, therefore, will be most proper to help these Letts and Impediments, that have both a great Weight, and contain something in their Nature of a restrictive Quality, that is, that both may fuse the Blood, and strengthen the Vessels at the same Time; of all which, I know nothing preferable to the following.

& Conserv. Anthos ʒi. Flaved. Aurant. ʒß. Pulv. Viperar. ʒvi. Chalyb. Simplificiter pptt. ʒii. Sal. Vol. Corn. Cervi Spec. Diamb. sine od. ʒi. Syr. Carioph. q. f. f. Elect. de quo fumat Quant. Nuc. Moschat. singulo Mane hora 4t. Pomerid. & Hora Som. cum Cochlear. 4tr sequent.

& Vin. Chalyb. Aq. Menth. ana. ʒiiii. Aq. Theriacal. ʒii. Syr. Croc. ʒvi. f. Julap.

W H E N the Danger is removed, which is known by the Abatement of the preceding Symptoms, then, to confirm the Patient in a sound State of Health, it will be highly necessary that he lower his Diet, intend his Exercise, and moderate his Passions, which will be an effectual Means, to stave off the Return of those Symptoms, that seldom appear the second Time, but, that they give the Constitution a terrible Shock.

T H E S E Strokes, that are so suddenly fatal, as to give no Warning of their Coming, are absolutely without Relief; but, even here, these might be prevented, would the Patient, but, in Time, lower his Diet, correct his Passions, and
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put a Curb upon his vitious Appetites; for it is scarce possible that any Person can die suddenly, that has not either a very weakly Constitution of the vital Organs; or is not extremely indulging in his Diet or Manner of Living, whereby the vital Springs are greatly impair'd, and ready to start from the least Impressions of the Air, our Diet, or any other of the Nonnaturals, especially if a Person often Indulges to Excess, when he is pretty well advanced in Years. However our Business is to learn, from the sad Examples of other People, to be more careful of our own Fate.



C H A P. VI.

Of Relieving the preceding Symptoms, that threaten sudden Death, from the Motions of the vital Organs elevated above the Balance of Nature.

HA V I N G examin'd into the curative Indications most proper to relieve the preceding Symptoms, that threaten sudden Deaths, from a depress'd State of the vital Organs; and which were generally epidemical in the Year 1730, from the moist, hazy Weather, that most commonly affected the Seasons, during that Period of Time; I shall now proceed, upon the same Principles, to discover the Rules of Practice most proper to relieve the oppress'd Motions, under an elevated State of the vital Organs, that is, when they are in great Danger of suffering a sudden, fatal Stroke, from an absolute Convulsion; and under which State, it is reasonable to believe, great
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Numbers expir'd, suddenly, in the Year 1731, from an universal great Drought, that affected the Air and Atmosphere, during that Period of Time.

THOSE Affections, that stand in direct Opposition to each other, as to their Causes, most certainly require a different, if not a direct, contrary Method of Cure; and under these Circumstances the properest Method, to prevent sudden Deaths from taking Effect, is immediately to subtract from the Cause that threaten Danger; and as the Cause that portend Danger, is generally a Plethora of Blood, existing in the Vessels; so I hold it highly necessary, that sixteen Ounces of this Fluid be immediately extracted from the Jugular Vein; and, if in the Compass of five Hours, the Symptoms do not abate, let Bleeding be repeated, and the same Quantity taken away the second Time. This is the only Means necessary to abate the Symptoms of Fulness, arising from an Abundance of Blood, pressing upon the Fibres of the Brain and Cerebellum; and thereby intercepting the Commerce between the Head and Heart; for this Discharge of Blood will be a Means to keep open the Pass, and enable the vital Organs to carry

ry on the Commerce, which is absolutely necessary to support us in Life.

IF, in four Hours Time after Bleeding, the Patient has not a Stool, then let the following Glister be injected; for scarce any purging Medicine will operate, under this elevated State of the Solids, till you souple the Intestines, relax their Fibres, and soften the Excrements by a lenitive Glister.

℞ Decoct. Com. P. Enemat. ℥ss. Elect. Lenitiv. ℥i℥. Mel. Violar Ol. Lin. Com. ā ℥iii. Sal. Gem. ℥iii. f. Enema statim Injiciendum.

THE next Morning, let him take the following purging Draught.

℞ Decoct. Sen. ℥iij Syr. de Spin. Cervin. Elix. Salut. ā ℥℥. f. Haust. Mane sumendus & rept. pro Re nata.

THESE are the most proper Methods to empty the Vessels, take off from the Load and Pressure of both the animal and vital Organs; and to facilitate the Blood's Circulation: And, if upon these Adminis-

nistrations, he find himself reviv'd, his Senses more lively, agile, and quick, in their Operations, it is a sure Indication, that a great Part of the Load and Pressure is remov'd; upon which, it will be highly proper to advise the following, both to strengthen the Brain, restore the Nerves, and give a freer Circulation to the Blood and animal Fluids.

℞ Conserv. Rosar. Conserv. Anthos an. 3vi. Pulv. de Guttet. 3iii. Cinnab. nativ. 3ii. Spec. Diamb. sine. od. 3i. cum q. f. Syr. Carioph. f. Elect. de quo sumat Quant. Nuc. Moschat. Major. singulo Mane Hora 4ta Pomerid. & Hora Somni, superbib. 3iiii sequent.

℞ Sem. Peon. excort. 3iii. Sem. 4tr. frigid. major. an. 3ii. Amigd. dulc. excort. N° xx. Contund. in Mort. marmor. sensim affund. Aq. Hord. thiss. col. cui adde Aq. Peon. C. 3iiii. Spir. Nitr. dulc. 3i. Sacchar. alb. 3iii. f. Emulso.

OR in Case the Patient be of a full Habit, and greatly abounding with a fizy Blood; then, after Bleeding, I should

prefer the following Methods, and Administrations to all others.

℞ Calomel. Gr. xii. Conserv. Rosar. q. f. f. Bol. singula Nocte, ad tres Vices, sumendus.

℞ Fol. Senn. ℥iiss Rhei incif. ℥ss Rad. Glycir. ℥i. Coq. in Aqua font. ℥vi. ad ℥iii. Col. cui adde Syrup. de Spin. Cervin. ℥vi f. Haustus mane sumend. cum Regimine.

As to the Application of Blisters, I should not indeed approve of their Use, under this over-contracted State of the vital Solids, were it not, that they mightily assist, in resolving all Obstructions, whether they arise from an over-contracted, or an over-relax'd State of the Fibres of the Brain and Nerves; nor are they less serviceable in assisting to fuse, and thin the animal Juices, by drawing off a Quantity of the sify Humours.

If, with the Use of the foregoing Medicines, the animal and vital Faculties recover their former Vigour, I should then think it highly necessary, in order
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to further these favourable Dispositions, that the Patient drink the *Bath-Waters*, especially if no Inflammation remains upon any of the superior Organs. By superior Organs, in this Place, I would be understood to mean the Brain, Heart, Lungs, and Stomach. And this Course ended, let him have a Couple of Issues made in his Neck, one, on each side the Spine. And those Indications, I have here laid down, in this, and the preceding Chapters, I look upon, as the properest Means to stave off the preceding Symptoms, that threaten sudden Deaths, or portend sudden Danger, either from an Elevation or Depression, in the Motions of the vital Organs, above or beneath the Balance of Nature.

IN some particular Cases, where the Shock is so sudden, as not to give Time to try the Efficacy of Remedies, I should immediately attempt to open the Jugular Artery, which though lodg'd very deep, yet certainly may be attempted with Success, if done by a Skilful Anatomist. The Advantage, I would propose from this Operation, is, that the Revulsion will be so suddenly made,

as to prevent the fatal Stroke from taking Effect ; if it does not arise from a Rupture of the vital Vessels, or Vessels constituting the vital Organs, in which Case it is always absolutely irretrievable.



C H A P. VII.

*Of the Government of the Passions,
in order to stave off the preced-
ing Symptoms, that threaten
sudden Death, from either an
Elevation or Depression of the
vital Motions, above or beneath
the Balance of Nature.*

TH E R E are not any of the Passions or exorbitant Desires of the Soul, that have occasion'd more sudden Deaths, than the Extremes of Joy and Grief. These two Passions generally arise from the Effects of our Ambition, and are sure Attendants of our Successes or Disappointments in Life. When we enterprize any bold Attempt, and succeed in our ambitious Views; this Success most commonly gives us Joy in Extremes: But if our Expectations run high, and we perceive ourselves baulk'd in the Pursuit, then the Disappointment affects the Vigour of the Mind, and fills our Thoughts with sad, and melancholy Reflections.

IT is the Duty, therefore, of a brave Man, that would pursue solid Happiness, and avoid the Evils and Miseries of Life, in the first Place, to get acquainted with the Knowledge of himself, and the Make of his Constitution; and be able to balance the Mind, and keep the Passions steady, as well in the most trying Circumstances of Life, as when his Affairs run in a more prosperous Channel.

A GREAT, a generous, and a gallant Man, bears up in the World like a Ship in the Sea well ballasted, that will ride out the most violent Storms of Wind or Weather: So let the Billows rage, the Sea roar, and the Madness of the People combine against him, yet he will stand his Ground in spite of Fortune, and bear up his Virtue, in Opposition to the most shocking Ills of Life.

I HAVE often made it a Question with my self, which was the most eligible State of Life, and how might a Man enjoy the greatest Happiness, that his Nature is capable of, and reap the blessed Fruits of all his Labour. To this or the like Questions it might be

be answer'd in the General; that to be perfectly content, is the most supreme State of Happiness, and the *Ne plus ultra* of all our Felicity. But then this Question recurs, *viz.* What are the most rational Enjoyments that constitute this perfect State of Tranquility, or as perfect a State, as is consistent with our imperfect Natures, and the frail Tempers of our Minds: And this I take to consist in a Steadiness of Soul, supported with a right Judgment and Understanding of Things. These Principles constitute true Wisdom; and true Wisdom instructs us how to govern the Passions; and bids us reflect on the Blessings we enjoy, without too anxiously pursuing those out of our Reach.

T H E R E is no being content without this Reflection. When a Man is possess'd with Food and Raiment, eats well and drinks well; and enjoys a perfect good State of Health; he has all the Reason in the World to think himself happy; and if, under these Circumstances, he wants Happiness, that Want most certainly arises from the Indulgence of some criminal Passion, which he ought to do all in his Power to restrain. What I mean here by Food and Raiment, and

a perfect good State of Health, is the Enjoyment of all the good Things of this Life, in such a Measure, as is suitable to the Figure he ought to make in the World, let his State or Quality be what it will: But the Misfortune of all is, that, most of us run counter to the Principle and Practice of this most excellent Virtue, Contentment; and could we look into the whole Round of Nature, and take a View of the several Classes of Mortals, from the highest to the lowest, from the richest to the poorest; and from the Prince to the Beggar, we should scarce find a Peasant, but he would be a Squire; nor a Squire, but he would be a Knight; nor a Knight, but he would be a Lord; nor a Lord, but he would be a Duke; nor a Duke, but he would be a King; nor a King, but he would be a God.

AND this Desire of Fame, or of being greater than what we are, is a Principle so universally diffus'd through all the Sons of *Adam*, that, I believe, it would be difficult to discover any one Individual, that is not tinctur'd with some Marks of it.

AND I am confident, that would most of us search into the Heart, and take a
View

View of our inward Thoughts, we should there perceive, that let us have made never so considerable Advances in Life, from our original Littleness, yet we still perceive an Eagerness in the Passions, to press forwards; and this Eagerness of the Passions to pursue a Remove above what we are, arises from our Want of Contentment in our present Circumstances; tho' perhaps these Circumstances, but a few Years ago, were a State to which our then present Meanness could scarce have aspir'd.

IF we enquire into the Grounds of this Passion or Desire, of arriving at the Summit of Perfection, we shall perceive it to arise from an Expectation of some higher Enjoyments, in every Remove, we make in Life, above what we are yet possess'd of; or else whence this Instinct of stretching our Thought above all that is Mortal for our Bliss and Happiness; as is the Case of those, that, from the smallest Beginnings, come to be possess'd of all the earthly Grandeur, this sublunary World can shower down upon them.

AN Example of this Unsteadiness of humane Nature we have in the Person of *Alexander the Great*, who, from the Possession

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session of one small Province, arose to be Lord of all the known World. He certainly was a Man of singular Endowments, had a vast Compass of Knowledge, and perfectly well understood the secret Springs upon which humane Nature is conducted : Nor was it possible, but, that a Man, of his Spirit, Genius, and finish'd Parts, bred up under such an accomplish'd Master as *Aristotle*, would enquire into the Nature of Things, and the Reality of their Existence, and not suffer his Understanding to be dazzled with Appearances only.

WHEN this mighty Hero had once form'd in his Mind, that vast Design of conquering the *Persian* Empire ; it cannot be doubted, but that he reflected upon the Greatness of the Enterpize, and the Numerousness of the Armies he was to encounter : Nor had he any other Means to balance these Difficulties with, but the Hopes of Conquest, the Courage of his own Heart, and the Order, Discipline, and Bravery of those Troops, he was to lead against such effeminate Numbers, as compos'd *Darius's* Army.

THE Generality of the World, who only view the Surface of Things, look'd upon the first Setting out of this young Hero,

Hero, as the Enterprize of either a Fool or a Mad-man: But how was the general Opinion alter'd, in Relation to his Conduct and Understanding, when he return'd victorious, and fraught with the Spoils of the *Persian* Empire! Short therefore is the Transition from a Mad-man to a Hero, and the only Medium is Success; which had the Victor fail'd of, its highly probable all his Heroism would have dwindl'd into a Phrensy; and, instead of a Triumph, must have submitted, to have been dragg'd at the Wheels of the Victor's Chariot.

BUT after he had, by his Conduct, Valour, and surprizing Success, advanc'd himself to be Master of the *Persian* Empire, did this content his great, ambitious Spirit? Not in the least, for then he enlarg'd his Views; and the Number of his Conquests only whetted his Mind, and prov'd a new Spur to greater Enterprizes; he, at length, cast in his Mind the Conquest of the World, or at least of all those Kingdoms, that would not pay a willing Homage to his usurp'd Power. And when he had master'd the Bulk of Mankind, enslav'd the most renown'd Empires, Kingdoms, and Provinces to his Lust, and could conquer no longer; did this high, exalted Station of Life afford

him the Blessings of a contented Mind? far from it; for then he sigh'd and griev'd, his Slaughters were at an End, and that there were no more Worlds within the Sphere of his Power to conquer; which plainly proves that his Desires of Dominion, enlarg'd with his Acquisitions; and that his Thirst for Empire, like that of a Dropsy, was insatiable.

To conclude, That Man can only be said to be great and brave, that can conquer the unruly Passions of the Soul, and subject all their Sallies to the Command of Reason; for in this Victory is sum'd up all the Happiness of Life. Nor is Ambition properly a Passion, but a Monster of the Soul, that extends its Views in Proportion, as it foster'd in the Heart, till at length the whole World contains too little Space to bound the Compass of its Views; for the more we get, the more we want, and consequently the more we crave; for of our Wants, and of our Cravings, there is no End, if once we cherish, in the Soul, a Spirit of Ambition.

ALEXANDER, after he had conquer'd the World, wanted to be a God, and the same Spirit of Ambition we may observe, in some Degree, diffus'd through us
all :

all: We all want to be Esquires, Knights, Lords, Dukes, and Princes, that is a Remove above what we are, and were we once advanc'd to these Dignities, we should want to be above them; that is, we should find in our selves the Spirit of *Alexander*.

I w A s oblig'd to take Notice of the Passions in this Light, because I have observ'd, that more sudden Deaths have arisen from Disappointments, and these Disappointments grounded upon ambitious Views, than all the other Passions put together.



C H A P.

C H A P. VIII.

A Discourse upon the Effects of Bleeding in Lethargick and Apoplectick Cases; with some Remarks upon the Case of an illustrious Personage, that lately died abroad on his Travels.

TH E Physician, that resolves to make the Good of Mankind his chief and principal Care, and is not led by any mean Views, or narrow selfish Ends, is a real Blessing to the Place where he lives. And as he is commission'd to be the Guardian of Life, and the Restorer of Health, in all Cases where the Constitution is impair'd, or its Fences broken down, through the Violence of a Disease; so has he every Reason that can oblige a worthy Mind to be just to his Character, and the Dignity and Honour of his Profession.

N O R can Heaven and Earth afford stronger Motives for Diligence, for Virtue, and the other Endowments of a generous Mind, than, in making him
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the Instrument of so much good, in relieving the Infirmities and Miseries of human Nature.

* ALL the great Ancients, that were remarkable for their Wisdom, and Knowledge, look'd upon the Profession of Physick, when supported upon honourable or philosophick Principles, as a Science that enobles the Soul with high and lofty Sentiments, and by giving him a Superiority of Knowledge †, lifts him up to an Equality with the Gods.

NOTHING, but the Welfare of Mankind, in General, and the Frequency of Apoplexies of late Years, could have prevail'd with me to engage upon the Discussion of this Point, viz. Whether Bleeding is the first, proper, and most general Remedy, that ought indiscriminately to be administer'd in the Fit of an Apoplexy, that is, whether it be a Remedy so absolutely necessary, as not to admit of Exceptions under some particular Circumstances; and what those Exceptions and Circumstances are, in which if

* By the great Ancients here, I would be supposed to mean the *Principes Artis Medicinæ*, or those that were at the Head of the Profession, in the several Ages of Antiquity.

† Medicus enim Philosophus Deo æqualis habetur *Lib. de decenti Habitu.*

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administer'd, it may prove of dangerous Consequence.

THE Apoplexy on all Hands is acknowledg'd a great, sudden, and dangerous Disease, and, therefore, demands the speedy Assistance of a Remedy, great, sudden, and powerful in its Operation, that may immediately discuss the Causes, solve the Fit, and restore the several affected Organs to their former Health and Vigour again: And as the Cause of the Fit, most generally arises from either a Redundancy of Blood or Phlegm obstructing in the Fibres of the Brain, and thereby intercepting the Action of the animal Faculties; so I am sensible that the Remedy first in View is to draw Blood; which is look'd upon as the most sovereign Remedy in all Cases of Apoplexies; and which has receiv'd such a Sanction from the Authority of *Hippocrates*, *Galen*, and *Celsus*, that it may seem too daring an Enterprize in me, to depart from the Sentiments of such great Authors.

As this Point of Bleeding therefore, is of the greatest Consequence in Practice, as it is acknowled by * one of the

* *Cel.* Lib. 3. Chap. 27. de Resolutione Nerv.

most

most eminent of the Ancients, either to kill or cure, when administer'd in the Fit of an Apoplexy; so it demands our deepest Consideration, to discover in what Cases it may be administer'd with Safety; and when, if advis'd, it may turn to the greatest Detriment of the Patient.

FOR my own Part, though I reverence Authority, as much as any Person whatever, when founded upon Reason, and the Nature of Things, yet I abhor that slavish Authority, that would subject the Reason of Man to mere Assertions, without the least Shadow of Proof; and am persuaded I shall be able to make it appear to the Satisfaction of the Reader, that Bleeding will as certainly kill, if administer'd, under some Circumstances of an Apoplexy, as it will save, if advis'd in others.

AUTHORITY, I must confess, is a strong Motive to incline the Will of those that are resolv'd to go and think with the Herd of Mankind; yet it is the weakest Argument in the World to convince the Understanding, where it hath no evident Grounds to support it; for Authors, however venerable for their Learning

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and

and great Characters, we should never look upon as infalible Guides; but as Men form'd of the same Materials, led and misled by the same Passions, and of Consequence subject to the same Preposessions and Failures with our selves.

I GRANT, indeed, that there are no universal and infallible Rules to determine this Point by, but what arise from the Constitution of the Body prior to the Invasion of the Disease; and from the Causes acting upon the Brain, and disconcerting the Fibres of the animal Organs.

HOWEVER, I shall lay it down as a Position most certainly true, that in all Cases of a Plethora or Fulness of Blood, that is, in the sanguine Apoplexy, it is absolutely necessary to make a large Discharge by Bleeding; because this Evacuation immediately takes off from the Pressure of the animal Organs, by immediately substracting from the Cause.

THE Marks, Characters, and Tokens, that discover Blood to abound in the Brain; and which indicate Bleeding, in the highest Sense necessary, are to be taken, from the Redness of the Eyes,
from

from a bloaty Lividness in the Com-
 plection; and from an apparent Fulness
 of the Jugular Veins.

I N a sanguine Apoplexy, therefore,
 thus circumstantiated, I should not fear
 to take away sixteen or twenty Ounces
 of Blood, for the first Time, and repeat
 the same Quantity after four or five Hours,
 in Case Success does not answer the first
 Discharge.

B U T in the Phlegmatick Apoplexy,
 where all the Marks and Symptoms of
 an impoverish'd Blood appear, there I
 should chuse to be more sparing of
 this Fluid; because, under these Cir-
 cumstances, I cannot conceive of what
 Benefit it can be, to draw Blood, where
 the Vessels are already too much re-
 lax'd, and which must, of Consequence,
 suffer greater Relaxations from such a
 Discharge. However, to comply with
 Custom, and as it is a Doubt, whe-
 ther it be helpful or hurtful, I would,
 even, here, advise the loosing of twelve
 Ounces; but if farther Discharges be
 judg'd necessary, from the Patient not
 recovering from the Fit, then let
 Blood be drawn by Cupping-Glasses ap-
 ply'd to the Neck and back Part of the
 M 2 Head,

Head, with deep Scarifications, which greatly relieve, in a Fit of the Apoplexy, arising from this languid and depress'd State of the animal Organs.

NOW the Case, I shall take the Liberty to debate upon, is, whether it is advisable, and agreeable to the Principles of Practice, to Bleed in the Fit of a Lethargy or Apoplexy, arising from a Charge of crude, indigestible Meats taken into the Stomach, which, intercepting the Motion of the Blood to the Brain, by necessary Consequence impair and lessen the Motion of the the Heart, in both its Systole and Diastole.

EVERY Body knows, that a full Meal, some Hours after, makes us short breath'd, and very inclinable to sleep; and when the Stomach is extremely distended, by stuffing and gorging to a very high Excess, it sometimes happens, that this Organ bears so hard upon the descending Trunk of the Aorta, as not only to impair the Motion of the Heart, but also the Action of the animal Faculties; and consequently occasions a Lethargy or Fit of an Apoplexy. The Point in Question is, Whether it is proper to bleed the Patient in a Case thus circumstantiated, and arising from such a Cause;

Cause; in my Opinion it ought by all Means to be avoided: But because Observations and Facts make the strongest Impression on the Mind of the Reader, I will give an Example, by way of Proof, of the fatal Effects of indiscriminately bleeding without previous Indications of its Necessity.

A GENTLEMAN on his Travels makes a hearty Supper of cold, crude, Meats, *viz.* Strawberries, Cream and Melon, that lie heavy on the Stomach, and do not digest, upon which a Complaint of Indigestion ensues, which, sometime after is follow'd with a Dozing, Lethargy, or Apoplectick Fit. Now is it possible to relieve the Fit, before this Load is discharg'd the Stomach? Is it possible, that Bleeding can contribute, any Thing, to his Relief, by making this Discharge? Nay, is it not highly probable, that Bleeding will prove a real Detriment to the Patient, by relaxing the Fibres of the Organs, and thereby taking off from the Force of the Blood necessary to supply the Stomach with Strength; and assist the important Office of Digestion.

BUT it is still worse, when Bleeding is judg'd necessary, upon reasonable Grounds,

to make the Discharge from the wrong Part, or from a Part, that could least of all benefit the oppress'd Organs; for sometimes the Stomach, upon its Inflation, bearing hard upon the descending Trunk of the Aorta, hinders the Descent of Blood to the lower Parts, whereby a greater Charge is sent up into the Organs of the Brain, upon which a Suspension ensues in the Action of the animal Faculties. In this Case to open a Vein in the Foot, and repeat that Operation, when a Discharge is immediately wanted from the Head, and a Stop in the Mid-way to block up the Passage, and intercept the Revulsion, is such a Mark of Rashness, as could only arise either from the extreme Ignorance, or Want of Reflection in the Adviser.

BUT, here, it may be enquir'd, *viz.* What Methods, under such Circumstances, would have been the most likely to have sav'd Life, and recover'd the Patient from the Fit. To this I answer, that if a proper stimulating Vomit had been immediately exhibited, upon the first Complaints of Indigestion, and Load, its highly probable, that the indigested Matter would, at once, have been discharg'd; especially if a warm cordial Purge or carminative Glisten had been administer'd at a proper
Dis-

Distance, in Case the Bowels did not, in Time, freely answer by Stool. Blisters also as they stimulate the Solids, and help forwards the too sluggish Secretions, must, in this Case, have been of singular Service. And, these, I should have thought, the most proper Administrations, in the first Attack ; and Methods that, in the Nature of Things, must have produc'd very happy Effects.

THE Time of Bleeding, where Bleeding is necessary, ought generally to be in the Beginning of the Fit, in the first Stroke, as soon as ever a Surgeon can be got ; for this Operation ought never to be omitted or postpon'd, in Case Indications of a sanguine Apoplexy appear in the Habit.

THE most commodious Part I take to be the Jugular Vein, because Blood extracted from this Vein makes a considerable, sudden Discharge of the superfluous Blood, that loads the Brain, oppresses the Organs, and intercepts the Action of the animal Faculties, by which means the Parts are relieved of their Pressure.

GIVE me Leave, here, to recapitulate as briefly as I can, the Observations I have

have made upon this Article of Bleeding. I hold it highly necessary to be taken away to the Quantity of 16 or 20 Ounces in the sanguine Apoplexy, I think it may sometimes be administer'd to good Purposes in the Phlegmatic Apoplexy; but that Method by Cupping - Glasses, with deep and large Scarifications, in my Judgment, appears the more reasonable; because it does not so suddenly take off from the Force and Motion of the great Vessels, which are absolutely necessary to be kept up, in order to force the Obstructions from the Organs of the Brain, and Faculties of the Senses.

BUT I think it highly improper when the Apoplectic Fit arises from cold, crude Meats taken into the Stomach, and which do not digest off; in this Case I should greatly prefer a stimulating Vomit of the *Vin. Benedict.* in Quantity properly adapted to the Greatness of the Disease, which immediately discharges, from the Parts affected the Load, that incumbers the animal Organs; and totally oppresses the Action of the animal Faculties.

AND, in this Sense, may be verified the Truth of that Aphorism of *Celsus*.
Si omnia Membra vehementer resoluta sanguinis

guinis Detraētio vel occidit vel liberat, that is, Venesection certainly cures in the Sanguine, if the Disease be not too violent, and as certainly kills if administer'd in the Fit of an Apoplexy arising from either too much Phlegm, or an Oppression of the Stomach.

AND as Bleeding is, undoubtedly, of great Service in the sanguine Apoplexy, so doubtless, Vomits skilfully chosen, are equally necessary, especially, if the Disease, either happen, in a phlegmatic Constitution; or arise from an over-great Charge of indigestible Meats taken into the Stomach. I could relate several Cases of Cures effected by this Means only, or at least where this was the principal Remedy. And *Riverius*, in the Chapter of the Apoplexy and comatose Affections, gives a remarkable Case of a noble Man that was successively rescu'd from three Fits, in the Compass of two Years, by the Administration of Vomits only.

To conclude: Principles, therefore, are of the highest Consequence in Practice, because they teach us to vary our Administrations, according to the Difference of Constitution, and Variety of Causes, that occasion the Disease; while practical

Indications, or Indications grounded upon practical Observations, oblige us to use the same Remedies, in all Cases where there is a Similitude of Symptoms, without any regard to the Constitution, Causes, and their Consequences ; which must often, in the Course of Practice, be attended with very fatal Effects.

F I N I S.





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